Algebraic Concepts
Lesson 17: Functions
Math for Standards

Name _____

Date _____

Key Concepts:

There are _____ quadrants on the coordinate plane.

A function is a _____ between two values (the independent and dependent variables).

The _____ variable is determined by the independent variable.

For each _____ variable, there will be only one dependent variable that matches up to it.

If you graph the points, you should not be able to draw a _____ through more than one point.

The _____ is the possible values for the independent variable.

The _____ is the possible values for the dependent variable.

Functions can be described as a _____, set of _____, _____, or _____.

Example 1: Write the domain and range for each set of data. Then rewrite each relation as a set of ordered pairs or in a table.

a.

x	*y*
12	-8
-9	6
4	13
9	7

b.

x	*y*
3	4
4	5
5	6
6	7

Example 1 (continued): Write the domain and range for each set of data. Then rewrite each relation as a set of ordered pairs or in a table.

c.

x	y
-3	7
8	6
-3	9
-1	4

d. {(3, 6), (9, 4), (-2, 8), (-2, 4)}

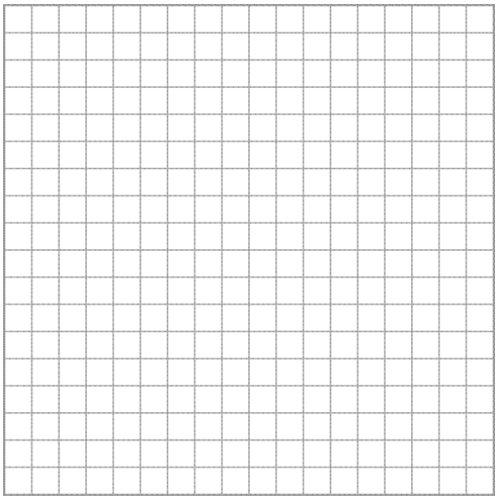
e. {(-1, 12), (-7, 5), (1, 7), (8, 1)}

f. {(-11, 3), (3, 11), (11, 4), (-11, 4)}

Example 2: Use the data to draw a graph. Then determine whether the relation is a function or not and explain your reasoning. If the relation is a function, explain whether it would make sense to connect the data points with a line.

a.

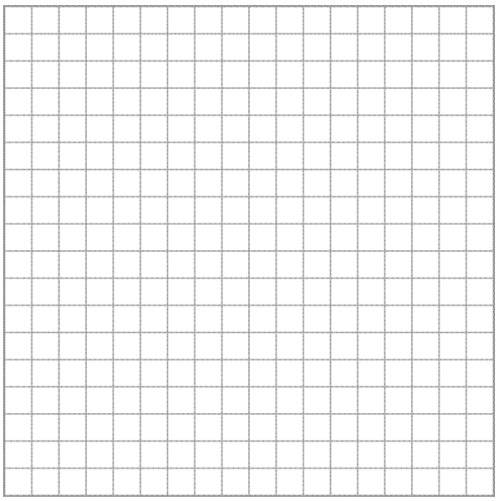
Year	Cost of a Bus Ride
1975	$0.35
1980	$0.50
1985	$0.75
1990	$0.90
1995	$1.15



Example 2 (continued): Use the data to draw a graph. Then determine whether the relation is a function or not and explain your reasoning. If the relation is a function, explain whether it would make sense to connect the data points with a line.

b.

Time of Day	Temperature in °F
8:00 AM	17
9:00 AM	19
10:00 AM	23
11:00 AM	24
12:00 PM	24
1:00 PM	26



Example 3: Sketch two graphs such that the first is a function and the second is not a function.

Function: Not a function: